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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/064,720	08/09/2002	Yoshiyuki Nakano	086142-0533	4229
22428	7590	12/15/2005	EXAMINER	
FOLEY AND LARDNER LLP			SPISICH, GEORGE D	
SUITE 500			ART UNIT	
3000 K STREET NW			PAPER NUMBER	
WASHINGTON, DC 20007			3616	

DATE MAILED: 12/15/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/064,720	Applicant(s) NAKANO ET AL.	
	Examiner George D. Spisich	Art Unit 3616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 September 2005.
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☒ Claim(s) 5 and 6 is/are allowed.
6) ☒ Claim(s) 1-4 and 7-16 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-4 and 7-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over DE 42 27 780 in view of Wier (USPN 5,908,222).

DE '780 discloses a pretensioner for increasing the restraint force of a seat belt on an occupant comprising a connecting member (24) which is a cable/wire connected to a piston (22), the piston configured to be moved by pressure of a gas generated by a gas generator, a "bent" tubular member comprising a linear portion in which the piston is slidably fitted and a gas generator accommodating portion in which the gas generator is accommodated. The piston is configured to move entirely/only within the linear portion and the connecting member pulls the seat belt when the piston moves.

The gas generator is located offset from the axis of movement of the piston. The connecting member is inherently operatively connected to the seat belt and buckle so that when the piston moves the connecting member pulls the seat belt/buckle. The

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tubular member of DE '780 includes what could be described as either an acute bend or a substantially perpendicular bend between the gas generator accommodating portion and the linear portion.

The tubular member includes a hole bored coaxially with the piston and the connecting member being positioned to pass through the hole.

Although DE '780 discloses a piston configured to move only within the linear portion, DE '780 does not show the linear portion having a constant inner diameter. Nor does DE '780 show a arrangement having an obtuse bend or a piston including a plurality of inclined surfaces that force balls against the inside of the tubular member to limit movement of the piston in a single direction. Nor is the linear and gas generating portions of the bent tubular member integrally formed.

Wier, as shown in Figure 2, 3 and 5, discloses a pretensioner for increasing the restraint force of a seat belt on an occupant comprising a "bent" tubular member having an linear portion (in at least Figures 3 and 5) having an approximately constant inner diameter. This bent member (as in Figs. 3 and 5) would be considered to be an obtuse bend. Wier shows a piston (12) having a plurality of balls (22) and an inclined surface (20) wherein the balls are then forced against the inside of the tubular member to limit movement of the piston in a single direction. The linear portions and the gas generator accommodating portion of the bent tubular member are integrally formed. This arrangement of Wier teaches the various bend angles of the bent tubular member, and also the use of a piston traveling in a portion having a constant inner diameter and using

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balls and inclined surfaces of the piston to properly limit the movement of the piston in a single direction.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the pretensioner of DE '780 by providing a linear portion having a constant inner diameter and a piston having inclined surfaces and balls to press against the inner surface of the tubular member of member as taught by Wier so as to provide a sturdy, efficient and effective pretensioner with locking ability. Furthermore, it would have been obvious to make the device have an obtuse bend as shown by Wier to allow for various arrangement positions within a vehicle. The aspect of the device being integral is not only shown by Wier but also considered to be obvious to one of ordinary skill in the art since it has been held that forming in one piece an article which has been formerly formed in two pieces and put together involves only routine skill in the art. *Howard v. Detroit Stove Works*, 150 U.S. 164 (1893).

Response to Arguments

With respect to Applicant's argument that Prinz (DE '780) does not teach any shape of the cylinder other than linear, and Weir teaches in Figures 1A and 1B that the piston always initially travels through a curved portion, Examiner disagrees with the argument and maintains the rejection. Examiner is not relying on the entire tube of Weir as a teaching. The end portion of the linear tube of DE '780 which has a tapered inner diameter is what is being modified by Weir. It is understood from Weir that the end of

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the tube as shown in Figures 3 and 5 and described in at least col. 2, lines 45-46 that the lower portion of the tube which the piston travels (even if subsequent to travel in a curved portion) is uncurved. Therefore, Weir teaches a tube (end) portion that is linear portion has a constant inner diameter. This detail is used to modify the end portion of the linear tube of DE '780 (having an tapered inner diameter) which supports the limitation that the piston moves only within, such that the inner diameter is constant and the piston includes the details as taught by Weir (such as the balls and inclined surfaces).

Allowable Subject Matter

Claims 5 and 6 are allowed.

Prior Art does not show the bend of the tubular member including a gas generator accommodating portion that extends parallel either towards or away from a linear sliding portion.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within

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TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to George D. Spisich whose telephone number is (571) 272-6676. The examiner can normally be reached on Monday-Friday 9:00 to 6:30 except alt. Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Dickson can be reached on (571) 272-6669. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

George D. Spisich
December 12, 2005



12/12/05
PAUL N. DICKSON
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3600